



(12) **United States Patent**  
**Hennings et al.**

(10) **Patent No.:** **US 7,168,034 B2**  
(45) **Date of Patent:** **Jan. 23, 2007**

(54) **METHOD FOR PROMOTING CONTEXTUAL INFORMATION TO DISPLAY PAGES CONTAINING HYPERLINKS**

(Continued)

FOREIGN PATENT DOCUMENTS

(75) Inventors: **Eric Hennings**, Seattle, WA (US);  
**Michael A. Angiulo**, Redmond, WA (US); **Michael D. Smith**, Kirkland, WA (US)

WO WO 00/68833 A2 \* 11/2000

(Continued)

(73) Assignee: **Microsoft Corporation**, Redmond, WA (US)

OTHER PUBLICATIONS

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 263 days.

Chakrabarti et al., "Enhanced Hypertext Categorization Using Hyperlinks," Sigmod Record, Jun. 1998, vol. 27, No. 2, pp. 307-318.\*

(Continued)

(21) Appl. No.: **10/854,052**

*Primary Examiner*—Heather R. Herndon

(22) Filed: **May 26, 2004**

*Assistant Examiner*—Maikhanh Nguyen

(65) **Prior Publication Data**

(74) *Attorney, Agent, or Firm*—Ronald M. Anderson

US 2004/0215664 A1 Oct. 28, 2004

(57) **ABSTRACT**

**Related U.S. Application Data**

(62) Division of application No. 09/283,780, filed on Mar. 31, 1999, now Pat. No. 6,763,496.

(51) **Int. Cl.**  
**G06F 15/00** (2006.01)  
**G06F 17/00** (2006.01)

(52) **U.S. Cl.** ..... **715/500.1**; 715/513; 715/526;  
709/207; 709/224; 707/104.1

(58) **Field of Classification Search** ..... 715/500.1,  
715/501.1, 513, 514, 526, 531; 709/207,  
709/224

See application file for complete search history.

(56) **References Cited**

**U.S. PATENT DOCUMENTS**

5,572,643 A 11/1996 Judson ..... 709/218  
5,630,125 A \* 5/1997 Zellweger ..... 707/103 R  
5,761,683 A 6/1998 Logan et al. .... 707/513  
5,793,966 A 8/1998 Amstein et al. .... 395/200.33

Contextual information concerning linked documents is promoted to display pages that contain hyperlinks to those documents. The contextual information can be immediately displayed, or it can be selectively displayed in response to a user selecting a text hyperlink anchor or a picture icon hyperlink anchor. Furthermore, the contextual information can include a variety of information about the linked document, including whether it has been modified within a predefined time period, such as the last 24 hours, a comment by the author concerning recent changes, and the size of the document. Preferably, the contextual information is automatically generated by a data promotion engine based on meta-data that is associated with the document and stored on a web site for the document. One of the types of contextual information stored in the meta-data is a manually defined category for a hyperlink in the display page.

**6 Claims, 12 Drawing Sheets**

